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ABSTRACT

A study was conducted to investigate oral language used in fourth- and fifth-grade student dyads in a collaborative writing setting in order to understand better how children learn to write. The study was based on a theoretical framework that emphasized the interrelatedness of thought, language, and learning. Following a pilot study, students in five dyads were given three different writing assignments: composing a story with a prescribed ending sentence, writing a text on a topic of mutual interest, and writing individual responses to literature following discussion. The sessions were tape recorded and qualitatively analyzed in relation to researcher notes. The results indicated that oral language played an important role in (1) the maintenance of interpersonal relationships; (2) problem solving relative to the writing task; (3) exploration of language and of new ideas; and (4) critical examination of existing ideas. The nature of the writing assignment affected advanced planning, type of language used, and length of production. More sophisticated writers were more deliberative and engaged in more word play than less sophisticated writers. In addition, boys and girls exhibited consistent differences. Girls were concerned with feelings and personal values while boys focused on high-powered action. (HTH)

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Peer Interaction During Collaborative Writing at the 4th/5th Grade Level

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Abstract

The purpose of this study was to investigate oral language used by 4th and 5th grade dyads in a collaborative writing setting in order to better understand how children learn to write. More than fifteen hours of audio tapes were collected, transcribed, and qualitatively analyzed in relation to notes taken by the researcher. This study was based on a theoretical framework which emphasized the interrelatedness of thought, language, and learning. It was found that oral language played an important role in (1) the maintenance of interpersonal relationships; (2) problem solving relative to the writing task; (3) exploration of language and of new ideas; and (4) critical examination of existing ideas. The nature of the writing assignment affected advanced planning, type of language used, and length of production. More sophisticated writers were more deliberative and engaged in more word play than less sophisticated writers. In addition, boys and girls exhibited some consistent differences.

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Peer Interaction During Collaborative Writing at the 4th/5th Grade Level

How children learn to write has been the focus of a considerable amount of research in recent years. Although there is growing awareness of the importance of oral language in relation to the composing process, very few studies have centered directly on this area. The purpose of the present research was to investigate peer interaction of 4th and 5th grade dyads in a collaborative writing setting. This study was based on a theoretical framework which drew heavily on the writings of both Vygotsky (1962, 1978) and Bruner (1964, 1975, 1982) and which emphasized the interrelatedness of thought, language, and learning. More specifically, it bridged research in both oral language and written composition. In concurrence with the work of Moffett (1968, 1976) and Britton (1970, 1975), the view was taken that the ability to sustain speech is a necessary antecedent of writing discourse and that peer interaction is a valuable aid to learning.

The present research differed from previous studies in that it involved a detailed qualitative analysis of

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oral language used by five pairs of 4th and 5th graders while they were carrying out each of three writing assignments, two of which involved joint authorship, and one of which entailed independent compositions. The subjects were selected from an informal classroom environment (modeled in part after the British Infant Schools) in which peer collaboration, exposure to literature, and daily writing were emphasized. Answers to the following questions were sought:

1. What is the role of talk during collaborative writing?

2. How does the nature of the writing assignment affect the oral language that is produced?

3. When a distinction is made between more sophisticated and less sophisticated writers on the basis of their written productions, is there a corresponding difference in their use of oral language?

4. How are boys and girls similar/different in their production of oral and written language?

In this study, more than 15 hours of audio tapes were collected, transcribed, and qualitatively analyzed in relation to written productions and notes taken by

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the researcher who remained present during the recording sessions. Subjects talked almost continuously throughout their writing episodes, thus yielding a running record of their composing processes.

Method

Subjects

The teacher of an informal 4th/5th grade class in a midwestern suburb chose five students on the basis of their ability and willingness to write. Each of these subjects, in turn, was asked to choose a partner with whom to collaborate in a research project. This procedure was used because it was thought that peer choice would put subjects at ease and thereby augment conversation. The composition of the resulting five dyads was as follows:

Dyad #1: two fourth grade boys

Dyad #2: one fourth grade boy and one fifth grade boy

Dyad #3: two fifth grade boys

Dyad #4: two fifth grade girls

Dyad #5: two fifth grade girls

Apparatus

For the purposes of audio taping, the researcher used a sophisticated set of Wollensak wireless microphones which

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subjects wore suspended from their necks and three Marantz cassette recorders. The utilization of such high-quality equipment resulted in excellent tapes that contained soft vocalizations which otherwise would have been lost.

Procedure

A pilot study was conducted in December, 1982, to ascertain whether a project of this nature was feasible and to determine what procedures were optimal. The subjects in the pilot study were from the same elementary school where the present study was later carried out. From this exploratory investigation, it was learned that productive interaction can occur during different types of assignments given in a collaborative writing setting and that some tasks were more productive than others.

In the present study, each of the aforementioned five dyads was given three different writing assignments in random order on separate occasions in April and May, 1983. The researcher individually audio tape recorded each of the sessions, all of which were held in a school conference room to avoid background noise interference. Writing assignments were carefully designed to allow for varied responses. A description of each task follows:

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1. Ending Sentence Assignment: Dyads were asked to compose jointly a story which concluded thusly: "Vowing that he would never make that mistake again, the prince mounted his white horse and rode back to the castle where he lived happily ever after." In order to carry out this task successfully, subjects had to take note that a mistake had been made and create a story in such a way that the beginning made sense with the ending supplied.

2. Free Choice Assignment: Dyads were instructed to choose a topic of mutual interest and then jointly construct a single text. This task was completely unstructured in that there were no restrictions regarding topic or genre. All decision making was left entirely up to the subjects.

3. Response to Literature Assignment: Dyads were asked to choose a book they had mutually enjoyed and discuss it before writing individual responses. Whereas in the first two tasks dyads wrote collectively, in this assignment, they wrote singly.

Following the writing episodes, subjects were given the opportunity to reread and possibly revise their compositions if they chose to do so. The researcher

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transcribed all audio tapes herself before conducting a qualitative analysis of oral and written language produced. Due to the almost constant interaction between partners, it was possible to reconstruct the composing episodes at a later time. In the case of the two collective tasks (the ending sentence and the free choice assignments), this was accomplished by mapping oral language transcripts in relation to written productions. It was not possible to document the parallel task (the response to literature assignment) in this way, since subjects did not always allude to where they were in their individually written texts at the time of utterance. For this reason, content of oral language had to be considered apart from the two compositions that were authored by individual subjects.

Results

The Role of Talk in a Collaborative Setting

In answer to the first question posed in this study, it was determined that oral language played an important role in the following areas:

- maintenance of interpersonal relationships
- problem solving relative to the writing task

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- exploration of language and of new ideas
- critical examination of existing ideas

For organizational clarity, each of these areas will be summarized in turn.

Maintenance of interpersonal relationships.

It was found that it made a difference whether or not subjects were allowed to choose their writing partners. In the pilot study, no provision was made for peer preference; the composition of dyads and triads was largely arbitrary. To the contrary, in the actual study, subjects were given the opportunity to select a partner with whom to write. It was found that, in the latter case, greater compatability and less competitiveness was exhibited by peers.

Another important variable relative to interpersonal relationships was level of behavioral maturity. Less behaviorally mature subjects engaged in more regulatory language and more frequently argued over the division of transcription and reading tasks. More behaviorally mature subjects, on the other hand, used greater subtlety in maintaining their interpersonal relationships by negotiating differences of opinion and exhibiting greater

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sensitivity toward their partners' feelings. In other words, the more behaviorally mature subjects handled the give-and-take of the collaborative writing setting in a more verbally sophisticated manner. They used interactive language constructively to maintain an ongoing relationship which held the two in contact even when ideational language was not being used to further create the text.

Overall, role relationships between partners remained fairly stable throughout the three writing episodes. Although one partner in each dyad clearly emerged as the more dominant of the two, there was significant interactive participation in every composing session. Interestingly, the conversational leader in each dyad was not necessarily the stronger writer as judged by the classroom teacher.

Sometimes partners did more than merely maintain a cooperative relationship; they attempted to engage one another more deeply in the task. For example, in the case of Dyad #2, there were several instances in which the more spontaneous partner deliberately tried to involve his peer by providing opportunities for active participation

Oral language frequently served as a vehicle for momentum and moral support during writing sessions. Subjects

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often sparked one another's ideas, thereby accessing possibilities. Reading aloud sometimes helped partners maintain their train of thought when composing jointly. In other instances, reading aloud was a means by which one partner could elicit comments from another. Positive responses provided enccuragement to go further in writing.

Digressions played an important role as well in that they served to reduce tension and sustain interest during lengthy writing sessions. After taking an occasional "breather", subjects then returned to the writing task at hand.

Problem solving relative to the writing task.

Subjects in this study used language primarily for problem solving relative to their writing tasks, that is, in determining what to say and how to say it. This finding could be considered relevant to Vygotsky's theory that inner speech serves as an organizer for writing. The situation forced inner speech to be realized verbally and thus be observable.

The subjects in the present study were mainly concerned with creation of meaning; they evidenced little overt attention to the demands placed on the reader or to

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nuances regarding choice of genre or style. Subjects typically selected a topic in a relatively short period of time and then spent the remainder of the writing episode developing their ideas. Joint construction of text required negotiation of meaning and compromise, both of which were successfully carried out by all of the participants in the study. In one case, that of Dyad #5, a subject provided a writing framework for her partner who was having trouble thinking of what to write. This was cited as an example of "scaffolding", a term originated by Bruner to mean the act of building supports for meaning which continue to grow and deepen. Subjects also deliberated about choice of wording and the mechanics of writing such as spelling. Oftentimes, a partner was able to provide a peer with assistance as problems arose in the writing session.

Exploration of language and of new ideas.

Although subjects heavily relied on their background of experience in writing, they often tried to seek new variations on familiar themes. For instance, Dyad #2 initially entitled a story "Knights of the Octagon Table" instead of "Knights of the Round Table". Word play,

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especially in conjunction with deliberate facetiousness, was common. Inappropriate usage for humorous intent was also evidenced. It is significant to note that often such exploration of language and new ideas did not find its way into the eventual written text. Generally, subjects demonstrated that they had a sense of what was appropriate and what was not in the written mode. Aside from conventions of usage, this behavior may also be related to Loban's (1976) finding that skill in language use is typified by both control and flexibility.

Critical examination of existing ideas.

Oral language played an important role in the critical examination of existing ideas as well. For example, a criticism posed by one of the members of Dyad #5 during the free choice assignment resulted in a lengthy discussion of how a character would feel in a particular set of circumstances. Out of the girls' introspection came the underlying meaning of their story. In other instances cited in this study, subjects noted discrepancies in their compositions after they had finished writing. This awareness was important because it could have been the basis for later revision if it had been pursued.

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Effect of Writing Assignment on Oral Language Use

The nature of the writing assignments did affect the oral language that was produced by the subjects in this study. The ending sentence task evoked the only example of detailed preplanning. Reconciling the beginning of a story with the ending that was given forced subjects to think ahead. This finding was in concurrence with research by Bereiter and Scardamalia (1981). In other writing assignments, dyads typically delineated their plots as they went along.

The free choice task, which allowed the greatest latitude in decision making, yielded the longest compositions. This relates to Graves' (1973) research in which unassigned compositions were lengthier than assigned ones. In addition, in the free choice task, more behaviorally mature subjects were involved in problem finding as well as problem solving. As an example, Dyad #2 members spent time considering the logistics of battle before they attempted to describe what happened.

The response to literature assignment evoked discussions about books. Partners often used oral language to help one another recall and clarify the contents of specific titles.

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Possibly since there was a tendency for subjects to focus on the book itself rather than to think divergently, less exploration of language occurred in the response to literature task than in the other two assignments.

Differences in Oral Language Use by More Sophisticated and Less Sophisticated Writers

During the course of data gathering, it became evident that Dyad #1 behaved differently than Dyads #2, #3, #4, and #5. Independent raters using the Diederich Scale unanimously agreed that written productions (both those constructed collectively and singly) by Dyad #1 were less sophisticated than those by the other dyads in the study. Hence, a distinction could be made between the two sets of subjects according to level of sophistication in writing. Data collected in this study revealed differences in oral language use as well. Less sophisticated writers tended to be less behaviorally mature as evidenced by a short attention span and frequent use of regulatory language in controlling one another's actions. Less sophisticated writers were less deliberative about what to say and how to say it. They were inclined to be impulsive and typically wrote down whatever came to mind first. Lastly, they did

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not evidence frequent word play and other forms of metalinguistic awareness as did more sophisticated writers.

Sex Differences in Language Use

In this study, there were both similarities and differences between the sexes in regard to language use. Since half of the more sophisticated writers were girls and half were boys, there were commonalities insofar as level of behavioral maturity, amount of deliberation in writing, and extent of observable metalinguistic awareness were concerned. However, differences appeared as well. For example, in the free choice assignment, girls wrote about themselves (primary territory), whereas boys wrote fantasies (secondary territory), a finding coinciding with Graves' (1973) research. Girls were concerned with feelings and personal values in their writing, but boys focused on high-powered action. Characters' family members who were extraneous to the plot were more frequently mentioned by girls than boys. Whereas girls portrayed both males and females in equally important roles, boys' writing was male dominated. Finally, girls mentioned handwriting, both formation of letters and general appearance, more often than boys.

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This study demonstrated that monitoring peer interaction during collaborative writing is a viable way of gaining insight into subjects' use of oral and written language. Furthermore, the approach afforded a figurative "window" on the composing process, although the claim cannot be made that writing with a partner is necessarily the same as writing alone. One task, that of parallel writing (the response to literature assignment) did approximate common classroom occurrences for these subjects. When taken together, oral language transcripts, written productions, and the researcher's on-site notes gave a fairly complete picture of writing as a "social event". Subjects' verbalization of concerns and strategies during the composing process illuminated what otherwise would have been covert behavior. Insights were gained not only into how subjects perceived their tasks, but into associations they made during the writing episodes as well.

The selection of subjects in this study was optimal for eliciting written production. First, the children came from a classroom where writing was a common task; second, one member of each dyad was selected by the teacher on the basis of ability and willingness to write. Students

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exhibited minimal microphone shyness and little behavior which could be construed as an artifact of the recording situation. They were somewhat atypical when compared to pupils from a traditional classroom because they were accustomed to interacting with one another while working on assignments given by their teacher. Furthermore, they were not disturbed by the presence of the researcher because visitors to the school were commonplace. During the nearly fifteen hours of oral language tapes, subjects repeatedly evidenced creativity and familiarity with literacy. It was obvious that they had been exposed to quality literature and had been given ample opportunities to express themselves in writing prior to the study.

Although the recording sessions physically took place outside the classroom, the children brought the sum of their feelings, attitudes, interpersonal relationships, knowledge, and experiential backgrounds with them each time they sat down to write. Consequently, the context of the collaborative writing setting in this study went far beyond the four walls of the conference room. The pervasive influence of the classroom teacher was readily apparent in the subjects' open approach to writing and

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in their relationships with one another. They were not afraid to experiment with new ideas or to make a mistake. (It should be noted, however, they they limited their type of writing to that with which they were most familiar.) In addition, the subjects exhibited not only an ability to assist one another, but a willingness to do so as well. In the absence of their teacher or a helping adult, the students remained on-task a high percentage of the time and showed resourcefulness. Although they, of course, did not have the knowledge and experience to cope with all the writing problems that came up, they did what they could under the circumstances and completed all tasks that were assigned. Peers were significantly helpful to one another in the areas of idea generation, mechanics (spelling, punctuation, and so forth), and motivation. Subjects regularly referred to writing done earlier by themselves or others. Their experiential reservoir was the product of meaningful opportunities to write and to share work with classmates.

It was apparent that behaviorally mature subjects contributed to one another's growth in oral and written language. There was ample evidence of peer guidance in

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vocabulary development and appropriate usage. Although the less behaviorally mature students occasionally interfered with one another, the collective writing setting provided an opportunity for exercising cooperation and compromise. The situation also gave subjects a chance to verbalize about writing, thereby augmenting personal awareness of the composing process. Furthermore, it is uncertain whether the overall interest of subjects would have been sustained as long if the assignments had been given to individuals to carry out alone.

Monitoring oral language also yielded information about sources of ideas. It was evident that the influence of television had permeated the students' lives. As a group, they were quite knowledgeable about happenings in the world, ranging from current events to manifestations of popular culture. Frequently, they would cite a TV show to establish a mutual frame of reference. It is probable that some of their exploration of language and ideas was the direct result of modeling on television. Anyone who has watched Saturday morning children's shows knows that it is common for script writers to play on words and use variations of traditional themes. Interestingly, however, when interviewed, most of the subjects failed to mention

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television as a source of ideas for writing. It appears that they were unaware of this influence.

As was observed earlier by Graves (1981), there was variability among and within writers from session to session in this study. Such factors as how a subject felt on a particular day, how an assignment was perceived, or what was going on back in the classroom very definitely affected language production. For example, Leslie (Dyad #5), a competent writer as judged by her teacher, behaved quite differently in two situations. In the free choice assignment, she made a strong contribution to the story she wrote jointly with her partner. However, in the response to literature task, she was at a loss for words on that particular day. Consequently, she relied heavily upon suggestions made by her partner.

The nature of the writing task was another important variable. As the cognitive demands changed, so did the language that was used. The longest written productions across all five dyads were in response to the free choice assignment, wherein subjects had the greatest latitude in deciding what to write and how to write it. Among the more behaviorally mature students, the task evoked evidence

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of personal meaning, ranging from pride in accomplishment to scrutiny of individual values.

The subjects in this study were in varying stages of learning how to make the transition from oral to written language. Less sophisticated writers were at the level where merely writing down what was said posed a challenge. In contrast, more sophisticated writers evidenced increasing awareness of the special demands of writing connected discourse. While attempting to make sense in the written mode, they were beginning to be cognizant of the need for explicitness and internal logic. Typically, more sophisticated writers deliberately altered their language when switching from one mode to another. In this study, there were many examples of facetiousness in oral language which did not carry over into written text. Since talk was more fleeting, it was preferred for exploration and rehearsal by the subjects. It is important to point out that oral language served both an interpersonal function and an ideational one was well. Interactional language functioned as a "glue" to keep members of each dyad together while their thinking progressed independently. In other words, talk helped to establish a mutual frame of

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reference, what Wells (1981) termed "intersubjectivity", from which writing could develop.

Although oral language enhanced collaborative writing most of the time, there were rare instances in which talk distracted a subject who was in the act of transcribing, thereby interfereing with the transition of explicit meaning from the oral to the written mode. This is understandable in light of the fact that it is difficult to filter out another person's extraneous remarks while writing jointly constructed text at the same time.

In regard to implications in education, even without the intervention of a teacher, peers at the 4th/5th grade level are capable of learning from and actively helping one another in a collaborative writing setting. Partners can provide general information, ideas, instant feedback, and moral support. Hence, they are a potential resource in the classroom. In order to optimize learning from peer interaction in a collaborative writing setting, howevers, teachers first need to provide students with meaningful opportunities for small group involvement. Pupils must gain some experience with the give-and-take of collective problem solving before they can write together in an

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effective manner. This is not to say that all writing should be of a collaborative nature, however. Students need a wide variety of purposeful experiences in learning to write. Since the type of task can affect both thinking and language use, teachers should choose assignments with care, remembering that both literature and television can serve as effective stimuli for writing.

It is important for students to be aware of one another's work, both that which is in progress and that which has been completed. Writing then becomes a common experience which can be shared and talked about by everyone in the classroom. The possibility of eventual publication in various forms affords a natural necessity for revision.

The present study examined the richness of peer interaction which can take place in a collaborative writing setting. Since a small population sample had to be used due to the painstaking demands of transcription and analysis, similar descriptive studies would be useful for comparison and validation.

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